

REMARKS

Applicant thanks the Examiner for answering applicant's attorney's question regarding the pending obviousness rejection over Abe in view of Motokazu on March 6, 2008. During the telephone communication, the Examiner explained to applicant's attorney that the Examiner considers the structures below the LED chips (1, 2, 3) and above the stem (4) in Drawing 2 of Motokazu to be the claimed lead frames. Applicant responds to the pending Office Action as follows.

Claims 1, 2, 7-10 and 12-19 stand rejected under 35 USC 103(a) as obvious over Abe in view of Kunihiro (JP Pub. No. 10-284759). Applicant has amended claim 1 to recite a second resin member formed of a polyamide-based resin. Support for this amendment can be found on page 14, line 13, of this application. Claims 14-16 were canceled to facilitate the prosecution of this application without prejudice as to their underlying subject matter. Abe does not disclose or suggest that its reflection case 31 is formed of a polyamide-based resin as claimed. Kunihiro also fails to disclose or suggest that its package 202 is formed of a polyamide-based resin as claimed. Accordingly, none of the cited references discloses or suggests a second resin member formed of a polyamide-based resin as claimed, and this rejection should be withdrawn as to claim 1 and claims 2, 8-10, 12-13, 18 and 19, which depend from claim 1.

With respect to claim 7, the claim now recites a lead frame that is "unfolded and in a plate shape that extends in one plane." Support for this amendment can be found on page 11, line 32, and on page 13, line 12. As explained on page 2, lines 27-33, and page 3, lines 22-25, of this application, a folded lead frame structure needlessly takes up space and limits the thickness of the metal plates that can be used as lead frames. Because thicker metal plates are more effective in dissipating heat than thinner plates, using unfolded metal plates as claimed would result in better dissipation of the heat generated from the light-emitting element, increased light output, and/or increased longevity of the light-emitting element. Abe's lead interconnections (32) are folded around resin substrates (34), not "unfolded and in a plate shape that extends in

one plane” as claimed. As shown in Drawings 2 and 5, Kunihiro’s outer electrodes (204, 504) are also folded around their packaging materials (202, 502). Accordingly, none of the cited references discloses or suggests a lead frame that is unfolded and in a plate shape that extends in one plane as claimed, and this rejection should be withdrawn.

Claims 20 and 21 stand rejected under 35 USC 103(a) as obvious over Abe in view of Motokazu (JP Pub. No. 07-015044). In particular, the Examiner asserts that, while Abe fails to disclose the claimed three lead frames, “Motokazu discloses a light-emitting device wherein an set of RGB light emitting devices (1,2,3, patent abstracts) on frames (layer below chips and spacer 22 if present) extending in different directions from each other.” (Action, page 9).

Applicant respectfully traverses this rejection.

Applicant thanks the Examiner again for explaining to applicant’s attorney that the spacers and/or soldering materials between Motozaku’s LED chips (1, 2, 3) and stem (4) are being considered as the lead frames. However, claim 20 recites three lead frames, each having a main surface in which “a first region and a second region extending along the periphery of said first region are defined,” the light-emitting element being “provided at said first region.” As shown in Drawing 2 of Motokazu, the LED chips (1, 2, 3) cover substantially the entire surfaces of the spacers (21, 22) and/or soldering materials. Accordingly, the entire spacers (21, 22) and/or soldering materials correspond to the first regions of the lead frames, and Motokazu fails to disclose or suggest the claimed second regions “extending along a periphery of said first region.” Since the spacers (21, 22) are used in Motokazu’s light emitting device simply to adjust the different heights of the LED chips of various colors (Motokazu, abstract), Motokazu fails to disclose or suggest any reason for modifying its spacers (21, 22) and/or soldering materials to disclose the recited second regions which extend “along a periphery of the first region” as claimed. Accordingly, none of the cited references discloses or suggests the second regions of the three lead frames as claimed, and this rejection should be withdrawn.

In addition, since the spacers (21, 22) and/or soldering materials fail to disclose or suggest the second regions extending along the peripheries of the first regions, Motokazu fails to disclose or suggest three lead frames that extend “in different direction from each other” as claimed. The spacers (21, 22) and/or soldering materials simply do not extend away from each other as claimed. Also, since the second regions are not disclosed, neither Motokazu nor Abe discloses or suggests three second regions of lead frames that are covered with a second resin member having a reflectivity that is different from the first resin member as claimed. Accordingly, this rejection should be withdrawn for this additional reason.

Furthermore, in the claimed invention, the three lead frames are “spaced apart and extend in different directions” to dissipate the heat that is generated from each of the light-emitting elements that are mounted on the first regions of each lead frames. This arrangement leads to excellent heat radiating effect as the heat generated from each light-emitting element is diverted away from the cluster of light-emitting elements. In Motokazu’s multicolor light emitting device, the three LED chips (1, 2, 3) are not mounted on three separate lead frames that extend away from the cluster of the LED chips (1, 2, 3) as claimed, and thus the heat radiating effect is achieved. Accordingly, Motokazu’s device is not the same as the claimed invention, and this provides yet another reason for withdrawing this rejection.

Claims 3 and 4 stand rejected under 35 USC 103(a) as obvious over Abe/Kunihiro in view of Murano. Again, claim 1 now recites a second resin member formed of a polyamide-based resin. Claims 3 and 4 depend from claim 1, and include the features of claim 1 due to their respective dependencies. As stated above, Abe and Kunihiro fail to disclose or suggest a second resin member formed of a polyamide-based resin as claimed. Since Murano also fails to disclose or suggest a second resin layer (52) formed of a polyamide-based resin as claimed, this rejection should be withdrawn at least due to this reason.

Claim 11 stands rejected under 35 USC 103(a) as obvious over Abe/Kunihiro. As stated above, Abe and Kunihiro fail to disclose a second resin member formed of a polyamide-based

resin as recited in claim 1. Since claim 11 depends from claim 1, this rejection should also be withdrawn.

Claim 22 stands rejected under 35 USC 103(a) as obvious over Abe/Motokazu. Claim 22 also depends from claim 1. Motokazu fails to disclose or suggest any structure that corresponds to the claimed second resin member. Accordingly, both Abe and Motokazu fail to disclose or suggest a second resin member formed of a polyamide-based resin as claimed, and this rejection should also be withdrawn.


In view of the above, each of the claims in this application is in condition for allowance. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. **245402008400**.

Respectfully submitted,

Dated: March 7, 2008

By:


S. Laura Chung
Registration No. 59,875

Morrison & Foerster LLP
1650 Tysons Boulevard, Suite 400
McLean, Virginia 22102
Telephone: (703) 760-7312
Facsimile: (703) 760-7777